

Customer No. : 31561
Application No.: 10/064,424
Docket NO.:9407-US-PA

REMARKS

Present Status of the Application

This is a full and timely response to the outstanding non-final Office Action mailed on October 20, 2004. The Office Action has objected to claims 3-9 due to various informalities. The Office Action has also rejected to claims 1, 5 and 6 under 35 U.S.C. 102(e) as being anticipated by Hurwitz et al. (USP 6,262,76) or under 35 U.S.C. 102(b) as being anticipated by Frankeny et al. (USP 5,146,674). The Office Action has further rejected to claims 2-4 and 7-9 under 35 U.S.C. 103(a) as being unpatentable over Frankeny ('674) in view of Miura et al. (USP 5,768,108) and further in view of Frankeny (USP 5,121,299).

Claims 1-9 remain pending of which claims 1-5, 7 and 9 have been amended to more accurately describe the invention and to correct editorial errors. It is believed that no new matter is added by way of these amendments made to the claims or otherwise to the application.

Applicant has most respectfully considered the remarks set forth in this Office Action. Regarding the anticipated rejection, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the amended claims. The reasons that motivate the above position of the Applicant are discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited.

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Discussion of Office Action Objections

The Office Action objected claims 3-9 because of various informalities.

Applicant would like to thank the Examiner for pointing out the various informalities and editorial errors. In response thereto, Applicant has amended the claims according to the Examiner's suggestions. Reconsideration and withdrawal of the objections are courteously requested.

Discussion of Office Action Rejections

The Office Action rejected claim 1 under 35 U.S.C. § 102(e), as being anticipated by Hurwitz et al. (USP 6,2623,76).

The Office Action rejected claims 1, 5-6 under 35 U.S.C. § 102(b), as being anticipated by Frankeny et al. (USP 5,146,674).

In order to properly anticipate Applicants' claimed invention under 35 U.S.C. § 102, each and every element of the claim in issue must be found, "either expressly or inherently described, in a single prior art reference." "The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F. 2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." See M.P.E.P. § 2131, 8th ed., 2001.

The present invention is in general related to a laminated substrate structure comprising at least a first dielectric layer with patterned circuits and a second dielectric layer with via studs,

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wherein the first dielectric layer is laminated to the second dielectric layer for the via studs in the second dielectric layer to align and to be in direct contact with the patterned circuits in the first dielectric layer.

The prior art at least fails to disclose or suggest the above claimed features. Instead, as illustrated in Figures 2A-2F, 3A-3C, 6A-6B and 7 of Hurwitz, the aluminum layer 38 (the alleged via studs) is deposited over the copper layer 34 (the alleged circuit layer), and an opening with a damascene pattern is formed in the aluminum layer 38 and the copper layer 34, wherein a dielectric layer 46 is deposited in the opening. In essence, both the via studs and the circuit layer are embedded in a same dielectric layer 46. Therefore, Hurwitz fails to teach a laminated structure that comprises the via studs in one dielectric layer being laminated to another dielectric layer having the circuit layers.

Similarly with Frankeny ('674), Frankeny teaches vacuum laminating an etched foil layer 1 (which allegedly serving as the circuit layer) to a second foil layer 9 which has been pre-coated with a dielectric layer 11, resulting with the dielectric layer 11 filling the gap in the etched foil layer 1 (col. 3, ln. 56-62). Frankeny further teaches in col 4, ln 8-12 that conventional coating methods is performed to coat a second dielectric material 13 to the first dielectric layer 11 and the etched foil layer 1, followed by forming holes 15, 15a in dielectric layers 11 and 13 to expose the metal foil 1 (col. 4, ln. 13-21.) Studs 17 and 17a are then plated in the holes 15, 15a (col. 4, ln. 37-42). In other words, the dielectric layer 13 that encompasses the studs 15, 15a is coated on the dielectric layer 11 with the etched foil layer

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1 therein. Therefore, Frankeny also fails to teach a laminated structure comprising a first dielectric layer of patterned circuits being laminated to a second dielectric layer of via studs.

For at least these reasons, Applicants respectfully assert that neither Hurwitz nor Frankeny renders claims 1 and 5 anticipated. Since claim 6 is a dependent claim which further define the invention recited in claim 5 respectively, Applicants respectfully assert that claim 6 is also in condition for allowance. Thus, reconsideration and withdrawal of these rejections are respectfully requested.

The Office Action rejected claims 2 and 7 under 35 U.S.C. § 103(a), as being unpatentable over Frankeny et al. (USP 5,146,674) in view of Miura (US 5, 768,108).

The Office Action rejected claims 3-4 and 8-9 under 35 U.S.C. § 103(a), as being unpatentable over Frankeny et al. (USP 5,146,674) in view of Miura (US 5, 768,108) and further in view of Frankeny et al (US 5,121,299).

With regard to the rejections of claims by Frankeny ('674) in view of Miura or Frankeny ('674) in view of Miura and further in view of Frankeny ('299) Applicants respectfully submit that these claims patently define over the prior art for at least the same reasons as independent claims 1 and 5 discussed above. Withdrawal of the rejections is courteously solicited.

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CONCLUSION

For at least the foregoing reasons, it is believed that the presently pending claims 1-9 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

Date :

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